

As is known in the art, phosphors emit visible light upon absorption of UV energy. Any UV energy that is absorbed by the reflective layer of Wada, and not reflected back into the phosphor for subsequent potential absorption, reduces the amount of visible light that is emitted from the phosphors.

As taught by Wada, the reflective layer consists of material that is deposited in powder form, and fired to form a compact glassy layer. Wada's materials are specifically chosen to provide a low melting point, to form this glassy layer (Wada, column 6, lines 16-26). The powder comprises different oxides, generally with a large fraction of lead-oxide (PbO), and the formed glassy layer after baking will substantially absorb light in the ultraviolet spectral range. Generally, the examples given by Wada (Wada, column 7, lines 11-64) exhibit an index of refraction with a complex component (k) in the ultraviolet spectral range that is an order of magnitude above the maximum value ($k < 0.05$) claimed by the applicants.

Because Wada does not teach a plasma display screen having a reflective layer that contains a non-metallic powder having a refractive index of $n = n_{\text{real}} + ik$, where $n > 1.3$ and $k < 0.05$, for the wavelength range from 147nm to 700nm, as specifically claimed by the applicants, the applicants respectfully request the withdrawal of the rejection of claim 1 under 35 U.S.C. 102(b) over Wada.

The Office Action also includes: a rejection of claim 2 under 35 U.S.C. 103(a) over Wada in view of Nagakubo (USP 5,541,479); a rejection of claim 3 under 35 U.S.C. 103(a) over Wada in view of Hellwig (USP 4,224,553); and a rejection of claim 4 under 35 U.S.C. 103(a) over Wada in view of Ohsawa (USP 5,939,826). Each of these rejections relies upon Wada for teaching the claimed reflective layer. The applicants respectfully traverse these rejections based on the remarks above, and based on the following remarks.

Wada is silent with regard to the use of a reflective material that exhibits very low absorption of light in the ultraviolet spectrum (UV, less than 400nm). Wada specifically addresses the reflection of light in the visible spectrum, as evidenced by Wada's continuous use of the term "white" in describing the layers that are intended to reflect the light energy in Wada's invention (WG - white glass; WB - white barrier; WW - white

wall). Throughout Wada's specification, reference is made to the reflection layer's function of reflecting the visible light that is emitted from the phosphor (Wada, column 3, lines 58-65; column 5, lines 21-34; column 8, lines 16-31; and elsewhere). Wada neither teaches nor suggests enhancing the production of visible light from the phosphor by reflecting, and not absorbing, the UV energy from the gas-discharge device back into the phosphor layer.

Based on the remarks above, the applicants respectfully request the withdrawal of the rejection of claim 2 under 35 U.S.C. 103(a) over Wada in view of Nagakubo, the rejection of claim 3 under 35 U.S.C. 103(a) over Wada in view of Hellwig, and the rejection of claim 4 under 35 U.S.C. 103(a) over Wada in view of Ohsawa.

In view of the foregoing, the applicants respectfully request that the Examiner withdraw the rejections of record, allow all the pending claims, and find the present application to be in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

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Respectfully submitted,



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804-493-0707

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